



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2018-1012; Product Identifier 2018-NM-132-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all The Boeing Company Model 777 airplanes. This proposed AD was prompted by reports of uncommanded movements of the Captain's and First Officer's seats. This proposed AD would require an identification of the part number, and if applicable the serial number, of the Captain's and First Officer's seats, and do applicable on-condition actions for affected seats. This proposed AD would also require a one-time detailed inspection and repetitive checks of the horizontal movement system of the Captain's and First Officer's seats and applicable on-condition actions. This proposed AD would also provide an optional terminating action for the repetitive checks of the horizontal movement system. We are proposing this AD to address the unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-1012.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-1012; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Brandon Lucero, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3569; email: Brandon.Lucero@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-1012; Product Identifier 2018-NM-132-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

**Discussion**

We have received reports indicating that there have been uncommanded movements of the Captain’s and First Officer’s seats. A Model 747 operator reported that during a takeoff, the First Officer’s seat unlocked from its seat tracks and moved aft. The First Officer was unable to control the airplane and the Captain took over the controls to avoid a rejected takeoff. The unlocking of the seat from the seat tracks was caused by actuator damage, which was a result of incorrect adjustment of the seat’s manual release lever cable, which allowed the clutch mechanism to only partially engage. Captain’s and First Officer’s seats having the same part numbers are installed on both Model 747 and

Model 777 airplanes. We are considering additional rulemaking to address the unsafe condition for Model 747 airplanes.

In addition, a Model 777 operator reported that the Captain's seat could not be locked in position after an adjustment to the horizontal seat position in flight. The seat became unlocked from the track and moved freely forward and aft. Control was given to the First Officer for approach and landing. The results of an inspection revealed that the horizontal actuator output shaft had broken. When a horizontal actuator output shaft breaks, the pilot cannot prevent seat movement in a forward and aft direction and cannot lock the seat in position. A broken horizontal actuator output shaft is the result of high loads, that exceed the design limits, caused by a stalled motor that can occur due to high mechanical resistance to motion during powered operation of the seat. Foreign object debris (FOD) in the seat tracks is another condition that can result in a stalled motor and cause the horizontal actuator output shaft to break.

An uncommanded seat movement during a critical part of a flight, such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

#### **Related Service Information under 1 CFR part 51**

We reviewed Boeing Special Attention Service Bulletin 777-25-0607, Revision 1, dated July 17, 2018 ("BSASB 777-25-0607, Revision 1"). The service information describes procedures for identification of the part number, and if applicable the serial number, of the Captain's and First Officer's seats, and for applicable on-condition actions for affected seats. The on-condition actions include an inspection of each seat's fore/aft and vertical manual control levers for looseness, installation of serviceable seats, and a seat functional test after any cable adjustment.

We also reviewed Boeing Special Attention Service Bulletin 777-25-0619, Revision 1, dated August 8, 2018 ("BSASB 777-25-0619, Revision 1"). The service

information describes procedures for a detailed inspection and repetitive checks of the horizontal movement system for the Captain's and First Officer's seats for findings (e.g., evidence of cracks, scores, corrosion, dents, deformation or visible wear; and incorrectly assembled microswitch assemblies, actuators, and limit switches), and applicable on-condition actions. The on-condition actions include clearing the seat tracks of FOD, overhaul of the horizontal movement system and replacement of the horizontal actuator. The service information also describes procedures for an optional terminating action for the repetitive checks by installing a serviceable Captain's or First Officer's seat.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require accomplishment of the actions identified in the Accomplishment Instructions of BSASB 777-25-0607, Revision 1, described previously, except as discussed under "Differences Between this Proposed AD and the Service Information," and except for any differences identified as exceptions in the regulatory text of this proposed AD.

This proposed AD would also require accomplishment of the actions identified as "RC" (required for compliance) in the Accomplishment Instructions of BSASB 777-25-0619, Revision 1, described previously, except as discussed under "Differences Between this Proposed AD and the Service Information," and except for any differences identified as exceptions in the regulatory text of this proposed AD.

For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-1012.

### **Differences Between this Proposed AD and the Service Information**

The effectivity of BSASB 777-25-0607, Revision 1; and BSASB 777-25-0619, Revision 1, is limited to Model 777-200, -200LR, -300, -300ER, and 777F airplanes with Ipeco part number series 3A201 and 3A258 Captain's and First Officer's powered seats installed, line numbers 1 and on. However, the applicability of this proposed AD includes all Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. Because the affected Captain's and First Officer's seats are rotatable parts, we have determined that these seats could later be installed on airplanes that were initially delivered with acceptable seats, thereby subjecting those airplanes to the unsafe condition. The referenced service bulletins can be used on airplanes not included in the service bulletin effectivity. This difference has been coordinated with Boeing.

Where BSASB 777-25-0607, Revision 1, specifies to do the actions within 72 months after the original issue date of the service bulletin, this proposed AD would require accomplishment of those actions within 36 months after the effective date of this AD. The 36-month compliance time corresponds with the compliance time in BSASB 777-25-0619, Revision 1. We have determined a 36-month compliance time is appropriate for doing the actions specified in this proposed AD. We have coordinated this difference with Boeing.

### **Costs of Compliance**

We estimate that this proposed AD affects 190 airplanes of U.S. registry. We estimate the following costs to comply with this proposed AD:

**Estimated costs for required actions per seat**

| <b>Action</b>                                   | <b>Labor cost</b>                                   | <b>Parts cost</b> | <b>Cost per product</b> | <b>Cost on U.S. operators</b> |
|---|---|-------------------|-------------------------|-------------------------------|
| Identification, seat                            | 1 work-hour X \$85 per hour = \$85                  | \$0               | \$85                    | \$85                          |
| Detailed inspection, horizontal movement system | 1 work-hour X \$85 per hour = \$85                  | \$0               | \$85                    | \$85                          |
| Checks, horizontal movement system              | 2 work-hour X \$85 per hour = \$170 per check cycle | \$0               | \$170 per check cycle   | \$170 per check cycle         |

We estimate the following costs to do any necessary on-condition actions that would be required. We have no way of determining the number of aircraft that might need these on-condition actions:

**Estimated costs of on-condition actions per seat\***

| <b>Action</b>   | <b>Labor cost</b>                                | <b>Parts cost</b> | <b>Cost per product</b> |
|---|--|-------------------|-------------------------|
| Adjustment, control lever cable                                       | 1 work-hour X \$85 per hour = \$85               | \$0               | \$85                    |
| Overhaul, horizontal movement system                                  | 11 work-hours X \$85 per hour = \$935            | Up to \$5,824     | Up to \$6,759           |
| Inspection of each seat's fore/aft and vertical manual control levers | 1 work-hour X \$85 per hour = \$85               | \$0               | \$85                    |
| Installation of serviceable seats                                     | 1 work-hour X \$85 per hour = \$85               | \$0               | \$85                    |
| Clearing FOD  | 1 work-hour X \$85 per hour = \$85               | \$0               | \$85                    |
| Replacement of the horizontal actuator                                | 1 work-hour X \$85 per hour = \$85, per actuator | \$205             | \$290                   |

| Action  | Labor cost                            | Parts cost | Cost per product |
|---|---------------------------------------|------------|------------------|
| Functional test,<br>adjusted control lever<br>cable | 1 work-hour X \$85 per<br>hour = \$85 | \$0        | \$85             |

\*The estimated cost for tooling to align an affected seat for adjustment of the control lever cable is up to \$46,064.

We have received no definitive data that would enable us to provide cost estimates for the optional terminating action for the repetitive checks specified in this proposed AD.

#### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.



## **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2018-1012; Product Identifier 2018-NM-132-AD.

**(a) Comments Due Date**

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 25, Equipment/Furnishings.

**(e) Unsafe Condition**

This AD was prompted by reports of uncommanded movements of the Captain's and First Officer's seats. We are issuing this AD to address uncommanded movement of the Captain's and First Officer's seats. An uncommanded seat movement during a critical part of a flight, such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Seat Part Number Identification and On-Condition Actions**

Within 36 months after the effective date of this AD, do an inspection to determine the part number, and serial number as applicable, of the Captain's and First Officer's seats, and do all applicable on-condition actions, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-25-0607, Revision 1, dated July 17, 2018.

**(h) Detailed Inspection and Repetitive Checks of Horizontal Movement System and On-Condition Actions**

Except as specified in paragraph (i) of this AD: At the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 777-25-0619, Revision 1, dated August 8, 2018 (“BSASB 777-25-0619, Revision 1”), do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of BSASB 777-25-0619, Revision 1.

**(i) Exception to Service Information Specifications**

For purposes of determining compliance with the requirements of this AD: Where BSASB 777-25-0619, Revision 1, uses the phrase “the original issue date of this service bulletin,” this AD requires using “the effective date of this AD.”

**(j) Optional Terminating Action for Repetitive Checks**

Installation of a serviceable Captain’s or First Officer’s seat as specified in, and in accordance with, the Accomplishment Instructions of BSASB 777-25-0619, Revision 1, terminates the repetitive checks required by paragraph (h) of this AD for that seat only.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (k)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(l) Related Information**

(1) For more information about this AD, contact Brandon Lucero, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3569; email: Brandon.Lucero@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on December 14, 2018.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.  
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